

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

CARNEGIE INSTITUTION OF WASHINGTON,

M7D CORPORATION,

Plaintiffs,

v.

PURE GROWN DIAMONDS, INC. and
IIA TECHNOLOGIES PTE. LTD d/b/a
IIA TECHNOLOGIES,

Defendants.

PURE GROWN DIAMONDS, INC.,

Counterclaim-Plaintiff,

v.

CARNEGIE INSTITUTION OF WASHINGTON,
M7D CORPORATION,

Counterclaim-Defendants.

Civil Action No. 1:20-cv-00189-JSR

PLAINTIFFS' ANSWER TO PURE GROWN DIAMOND INC.'S
AMENDED COUNTERCLAIMS

Plaintiffs Carnegie Institution of Washington and M7D Corporation (collectively, "Plaintiffs") answer the Counterclaims of Defendant Pure Grown Diamonds, Inc. ("PGD"), Dkt. 56, as follows.¹

¹ PGD and Defendant Iia Technologies Pte. Ltd. filed a joint answer to Plaintiffs' complaint but only PGD asserted counterclaims.

PGD'S COUNTERCLAIMS

THE PARTIES

1. PGD is a Delaware corporation with a headquarters located at 45 West 45th Street, 5th Floor, New York City, New York 10036.

ANSWER: Admitted.

2. Upon information and belief, Carnegie is a Washington, D.C. corporation with its headquarters and principal place of business at 1530 P St. N.W., Washington, D.C. 20005.

ANSWER: Admitted.

3. Upon information and belief, M7D is a Delaware corporation with its headquarters and principal places of business at 6700 Virginia Manor Road, Beltsville, Maryland 20705.

ANSWER: Admitted.

JURISDICTION AND VENUE

4. PGD's counterclaims for declaratory judgment arise under the Federal Declaratory Judgment Act and the patent laws of the United States, 28 U.S.C. §§ 2201 and 2202, and 35 U.S.C. § 100 et seq. This Court has subject matter jurisdiction over PGD's counterclaims under 28 U.S.C. §§ 1331, 1367, and 1338(a).

ANSWER: Paragraph 4 states legal conclusions to which no answer is required. To the extent an answer is required, Plaintiffs admit that PGD filed counterclaims. Plaintiffs deny any remaining allegation in Paragraph 4.

5. On January 9, 2020, Plaintiffs filed their original Complaint (ECF No. 1) in the Southern District of New York. The Complaint alleged infringement of the '078 and '189 Patents. PGD denies infringement of the patents-in-suit and asserts invalidity and unenforceability of the patents, among other defenses, as set forth above. As a consequence, there is an actual justiciable controversy between PGD and Plaintiffs regarding the validity, enforceability, and infringement of the claims of the Patents-in-Suit.

ANSWER: Paragraph 5 states a legal conclusion to which no answer is required. To the extent an answer is required, Plaintiffs admit they filed their original Complaint in this action on January 9, 2020 in this Court, and the Complaint alleged infringement of U.S. Patent No. 6,858,078 and U.S. Patent No. RE41,189. Plaintiffs aver that PGD infringes these patents

and these patents are valid and enforceable, but otherwise acknowledge that PGD contests infringement, validity, and enforceability. Plaintiffs deny that PGD's counterclaims are justiciable. Plaintiffs deny any remaining allegations in Paragraph 5.

6. This Court has personal jurisdiction over Plaintiffs at least by virtue of their consent to file this case in the Southern District of New York.

ANSWER: Paragraph 6 states a legal conclusion to which no answer is required. To the extent an answer is required, Plaintiffs admit they brought an action for patent infringement of U.S. Patent No. 6,858,078 and U.S. Patent No. RE41,189 against PGD in this Court. Plaintiffs do not contest personal jurisdiction in this Court only for purposes of this action. Plaintiffs deny any remaining allegation in Paragraph 6.

7. To the extent venue in this Court is proper for the claims set forth in Plaintiffs' Complaint, venue is also proper for these counterclaims.

ANSWER: Paragraph 7 states a legal conclusion to which no answer is required. To the extent an answer is required, Plaintiffs admit that venue in this Court is proper for the claims set out in Plaintiffs' Complaint. Plaintiffs do not contest venue in this Court for purposes of only this action. Plaintiffs deny any remaining allegation in Paragraph 7.

**FIRST COUNTERCLAIM
(Declaratory Judgement of Invalidity)**

8. The allegations of Paragraphs 1-7 of the Counterclaims are incorporated by reference as if fully set forth herein.

ANSWER: Plaintiffs incorporate the answer to Paragraph 1-7 above.

9. The claims of the patents Plaintiffs have asserted against PGD are invalid for failure to comply with the conditions for patentability specified in 35 U.S.C. § 101 et seq., including without limitation each requirement in 35 U.S.C. §§ 101, 102, 103, 112, and 132.

ANSWER: Denied.

10. Accordingly, PGD is entitled to a declaratory judgment that the claims of the patents-in-suit are invalid.

ANSWER: Denied.

**SECOND COUNTERCLAIM
(Declaratory Judgment of Non-Infringement)**

11. The allegations of Paragraphs 1-10 of the Counterclaims are incorporated by reference as if fully set forth herein.

ANSWER: Plaintiffs incorporate the answer to Paragraph 1–10 above.

12. For example, PGD does not directly infringe (either literally or under the doctrine of equivalents) the claims identified in the Complaint or in Plaintiffs’ Local Patent Rule 6 disclosures. PGD does not manufacture diamonds at all, let alone in the United States. PGD does not offer to sell, sell, use, or import into the United States diamonds made by the claimed processes. PGD does not infringe the claims of the asserted patents under 35 U.S.C. § 271(g).

ANSWER: Denied.

13. In addition, PGD does not contribute to or induce the infringement of any claims identified in the Complaint. For example, PGD has not induced, nor does it induce, infringement of any claims identified in the Complaint. Nor does PGD possess a specific intent to encourage others to infringe any claims identified in the Complaint. PGD has not been willfully blind to any risk of infringing either patent identified in the Complaint.

ANSWER: Denied.

14. Accordingly, PGD is entitled to a declaratory judgment that it has not infringed and is not infringing any claim of the patents-in-suit.

ANSWER: Denied.

**THIRD COUNTERCLAIM
(Inequitable Conduct)**

15. The allegations of Paragraphs 1-14 of the Counterclaims are incorporated by reference as if fully set forth herein.

ANSWER: Plaintiffs incorporate the answer to Paragraph 1–14 above.

16. The ’189 Patent is unenforceable because it was acquired through inequitable conduct or, in the alternative, because the ’189 Patent is a reissue of a patent that was procured by inequitable conduct.

ANSWER: Denied.

17. On June 3, 2002, Robert H. Frushour and Wei Li filed U.S. Patent Application No. 10/161,266 (“the ’266 Application”), which listed Frushour and Li as joint inventors. The ’266 Application was accompanied by a Combined Declaration and Power of Attorney. That

Declaration included the signed oaths of inventorship of both Frushour and Li. It states as follows: “I believe I am . . . an original, first and joint inventor . . . of the subject matter which is claimed and for which a patent is sought on the invention entitled: METHOD OF MAKING ENHANCED CVD DIAMOND.” The signed oaths of inventorship further state “I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true.” On May 22, 2002, Frushour and Li assigned their rights in the ’266 Application to Phoenix Crystal Corporation and the Application eventually issued as the ’610 patent on November 2, 2004.

ANSWER: Plaintiffs state that the identified Combined Declaration and Power of Attorney is a document that speaks for itself and deny PGD’s recharacterization of the same through elision. Plaintiffs admit the remaining allegations in Paragraph 17.

18. The ’610 patent relates to high-pressure/high-temperature processes for single crystal CVD diamond. Dr. Frushour is listed as an inventor on at least 20 United States patents related to high-pressure/high-temperature diamond technology.

ANSWER: Denied.

19. On July 13, 2004, Russell Hemley, Ho-kwang Mao, and Chih-Shiue Yan filed U.S. Patent Application No. 10,889,171 (“the ’171 Application”), which listed Hemley, Mao, and Yan as joint inventors. Hemley, Mao, and Yan assigned the ’171 Application to Carnegie Institution of Washington (“Carnegie”), effective July 12, 2004.

ANSWER: Admitted.

20. Along with the ’171 Application, Hemley, Mao, and Yan included a request for an interference proceeding with the ’266 Application, accompanied by a Declaration signed by Hemley, Mao, and Yan on July 12, 2004. The interference request and Declaration were made part of the file for the ’266 Application on August 30, 2004. Hemley, Mao, and Yan submitted the declaration to the Patent Office without ever speaking with Frushour.

ANSWER: Plaintiffs aver that Hemely, Mao, and Yan had no obligation to speak with Frushour before submitting their July 12, 2004 declaration to the U.S. Patent and Trademark Office (“PTO”) and deny any contrary implication in Paragraph 20. Otherwise, admitted.

21. The claims of the ’171 Application were drafted to be identical to the claims of the ’266 Application and the ’610 Patent. If the ’171 Application and declaration are to be believed, neither Frushour nor Li were inventors of the subject matter claimed in the ’610 and ’189 Patents; only Hemley, Mao, and Yan were

ANSWER: Plaintiffs admit the '171 Application had identical claims to those of the '266 Application and the '610 Patent. Plaintiffs deny the remaining allegation in Paragraph 21.

22. On June 11, 2020, Frushour appeared for depositions and testified under oath as to his contributions to the subject matter described and claimed in the '610 Patent. At the June 11, 2020 deposition, Frushour corroborated his testimony with the '266 Application that led to the '610 Patent, the Combined Declaration of Frushour and Li, and the contemporaneous lab notebooks of Li, which Frushour had maintained since they were created at Phoenix Crystal Corporation.

ANSWER: Plaintiffs admit that the parties deposed Frushour on June 11, 2020. Plaintiffs deny the remaining allegation in Paragraph 22.

23. At the June 11, 2020 deposition, Dr. Frushour reviewed the Declaration of Hemley, Mao, and Yan dated July 12, 2004, and disagreed with its content. Again, this Declaration was submitted by Hemley, Mao, and Yan without ever speaking to Frushour, a named inventor on the '266 Application and the '610 Patent.

ANSWER: Plaintiffs admit that, during his June 11, 2020 deposition, Frushour reviewed the July 12, 2004 Declaration of Hemley, Mao, and Yan. Plaintiffs deny any allegation as to Dr. Frushour's state of mind at his deposition. . Plaintiffs further admit that Hemley, Mao, and Yan did not speak to Frushour before submitting their July 12, 2004 Declaration, but Plaintiffs aver that Hemely, Mao, and Yan had no obligation to speak with Frushour before submitting their declaration to the PTO. Plaintiffs deny any remaining allegation in Paragraph 23.

ANSWER: Denied.

24. The Declaration of Hemley, Mao, and Yan dated July 12, 2004, contains false statements. Contrary to the Declaration, Hemley, Mao, and Yan did not convey the claimed annealing steps to Frushour or Li. Li's contemporaneously maintained notebook does not indicate that Hemley, Mao, or Yan provided any annealing conditions to use. Instead, Frushour and Li already knew what process conditions to use when anneal CVD diamonds because (i) they had previously induced color change in natural diamonds using the exact same annealing conditions, (ii) they thought those same annealing conditions would also work to induce color change in CVD diamond, and (iii) that process did, in fact, successfully induce the same color change in CVD diamonds.

ANSWER: Denied.

25. On May 6, 2004, Paul Kokulis, the prosecuting attorney for the '171 Application, wrote to James Singer, the prosecuting attorney for the '266 Application. Kokulis expressed the view his client, Carnegie Institution of Washington, was the rightful inventor of the claims in the '266 Application. On June 17, 2004, Singer responded, requesting documents in support of Carnegie's claim to inventorship. Singer stated that he had no reason to believe the inventorship was incorrect and would continue to believe the inventorship was correct until Carnegie could provide evidence otherwise. On June 25, 2004, Kokulis responded but did not provide any such evidence. On July 13, 2004, Kokulis filed the '171 Application along with the Declaration dated July 12, 2004, attempting to provoke an interference. On November 22, 2006, the U.S. Patent Office rejected the Declaration and claims of the '171 Application, and Carnegie allowed the '171 Application to go abandoned on August 15, 2007.

ANSWER: Plaintiffs admit that Mr. Paul Kokulis, Carnegie's patent counsel, sent a letter to Diamond Innovations Inc. (the owner at the time of the '266 Application) on May 6, 2004.

Plaintiffs further admit that Mr. James Singer, Diamond Innovation's counsel, sent a letter to Mr. Kokulis on June 17, 2004 stating that Diamond Innovation found no information contrary to the stated inventorship of the '266 Application, and requesting supportive documentation showing the inventorship was incorrect. Plaintiffs aver that Mr. Singer also stated that Diamond Innovations would consider amending ownership and/or inventorship of the '266 Application to reflect Carnegie's contributions. Plaintiffs further admit that Mr. Kokulis responded to Mr. Singer in a June 25, 2004 letter, and Plaintiffs aver that Mr. Kokulis indicated Carnegie had already provided Diamond Innovations with the relevant information to investigate the issue. Plaintiffs deny any implication that Mr. Kokulis and Mr. Singer exchanged no further correspondence. Plaintiffs also deny any implication that Mr. Kokulis failed to provide supportive evidence, and Plaintiffs aver that Mr. Kokulis sent Mr. Singer a letter on July 20, 2004 attaching a copy of the July 12, 2004 Declaration of Hemley, Mao, and Yan. Plaintiffs admit that, on July 13, 2004, Mr. Kokulis filed the '171 Application and July 12, 2004 Declaration with the PTO. Plaintiffs admit that, on November 22, 2006, over two years later, the PTO examiner rejected the '171 Application over the then-issued '610 Patent. Plaintiffs deny that the examiner rejected the July 12, 2004 Declaration. Plaintiffs admit that the PTO issued a

Notice of Abandonment for the '171 Application on August 15, 2007. Plaintiffs deny any remaining allegation in Paragraph 25.

26. On October 24, 2003, Phoenix Crystal Corporation assigned the '266 Application to GE Superabrasives, Inc. (effective October 1, 2003).

ANSWER: Admitted.

27. On December 31, 2003, GE Superabrasives, Inc. signed an agreement assigning its rights in the '266 Application to Diamond Innovations, Inc.

ANSWER: Plaintiffs aver that, on December 31, 2003, GE Superabrasives, Inc. signed an Assignment agreement selling, assigning, and transferring all right, title, and interest in the '266 Application to Diamond Innovations Inc. Otherwise, admitted.

28. On November 2, 2004, the '266 Application issued as the '610 Patent, owned at the time by Diamond Innovations, Inc. and listing Frushour and Li as the sole inventors.

ANSWER: Admitted.

29. On September 4, 2008, Diamond Innovations, Inc. signed an agreement (effective June 30, 2008) transferring its interest in the '610 Patent to Carnegie Institution of Washington, subject to a non-exclusive license. This is the same Carnegie that tried to provoke an interference proceeding with the Application that led to the '610 Patent, based on a false Declaration.

ANSWER: Plaintiffs admit that, on September 4, 2008, Diamond Innovations, Inc. signed a Confirmation of Assignment (effective June 30, 2008) selling, assigning, transferring, and setting over its entire right, title, and interest in the '610 Patent to Carnegie, subject to a license granted by Carnegie pursuant to an Assignment and Non-Exclusive License Agreement between Diamond Innovations and Carnegie. Plaintiffs further admit that Carnegie filed the '171 Application and requested an interference with the then-pending '266 Application. Plaintiffs deny that the July 12, 2004 Declaration was false. Plaintiffs deny any remaining allegation in Paragraph 29.

30. On January 30, 2009, Carnegie Institution of Washington filed U.S. Patent Application No. 12/362,529 ("the '529 Application"), seeking reissue of the '610 Patent. In the '529 Application, Carnegie, through the Declaration of Gary Kowalczyk, falsely declared that

the '610 Patent contained “[a]t least one error”—namely, that “Robert H. Frushour is incorrectly named on the 6,811,610 patent as an inventor and Russell J. [sic.] Hemley, Ho-kwang Mao and Chihshiu Yan are incorrectly not named as inventors.” In the Declaration, Kowalczyk and Carnegie, as well as each of Hemley, Mao, and Yan, did not inform the Patent Office of the previous failed attempt to challenge the inventorship of the '610 Patent, omitted evidence that Diamond Innovations, Inc. believed Li and Frushour to be the correct inventors, and failed to explain that Carnegie, Kowalczyk, Hemley, Mao, and Yan had never contacted Frushour to discern whether he contributed to the claimed invention. Li could not have provided any credible information that Frushour was not an inventor since it would directly contradict Li’s own Declaration under oath to the Patent Office in the '266 Application on May 22, 2002. At a minimum, Kowalczyk had an obligation to contact Frushour before declaring to the Patent Office he believed Frushour was not an inventor. Knowing that Frushour was a named inventor of the '610 Patent, for Kowalczyk to state that “Frushour is incorrectly named on the 6,811,610 as an inventor” was a knowingly false statement, or at best a willfully blind statement, intended to deceive the Patent Office and to deprive them of material knowledge that Kowalczyk knew or should have known undermined his claim.

ANSWER: Plaintiffs admit that Carnegie filed the '529 Application with the PTO on January 30, 2009, which sought reissue of the '610 Patent. Plaintiffs further admit that the '529 Application included a declaration from Mr. Gary Kowalczyk, Carnegie’s Director of Administration and Finance, stating that Robert H. Frushour was incorrectly named on the '610 Patent as an inventor and Russell J. Hemley, Ho-kwang Mao, and Chih-shiu Yan were incorrectly not named as inventors. Plaintiffs deny the remaining allegations of Paragraph 30, and in particular deny that Mr. Kowalczyk made any knowingly false or willfully blind statements and that Mr. Kowalczyk intended to deceive the Patent Office or deprive it of material knowledge.

31. Had the Patent Office known any of these material facts, it would have required further investigation into Carnegie’s and Kowalczyk’s claim of erroneous inventorship, and the '189 Patent would not have issued listing Li, Hemley, Mao, and Yan as inventors

ANSWER: Denied.

32. There was no mistake in the identification of Frushour and Li as inventors of the '610 Patent. Despite asserting a mistake in inventorship in the '529 Application, Carnegie and Kowalczyk did not include a Declaration in the reissue application from Mao, Hemley, Yan, or any of the named inventors of the '610 Patent. Moreover, no one contacted Frushour in connection with the reissue application to inquire whether there was a mistake in inventorship in the '610 Patent. The '529 Application later reissued as the '189 Reissue Patent

ANSWER: Plaintiffs admit that the '529 Patent did not include inventor declarations, but Plaintiffs aver that Carnegie had no obligation to submit any such declarations. Plaintiffs also admit that the '529 Application reissued as the '189 Patent. Plaintiffs deny the remaining allegations of Paragraph 32.

33. The '189 Reissue Patent recites identical specification, figures and claims as the '610 Patent.

ANSWER: Admitted.

34. In contrast to the '610 Patent, which names Frushour and Li as the inventors of the claimed subject matter, the '529 Application improperly added Carnegie scientists Russell J. Hemley, Ho-Kwang Mao, and Chih-shiue Yan as the inventors of the claimed subject matter. These are the same Hemley, Mao, and Yan that submitted a false Declaration in the '171 Application, an Application that the Patent Office rejected and Carnegie abandoned after failing to provoke an inventorship challenge in the Patent Office.

ANSWER: Denied.

35. In contrast to the '610 Patent, which named Frushour and Li as the inventors of the claimed subject matter, the '529 Application improperly removed Frushour as an inventor of the claimed subject matter. Again, no one contacted Frushour about the reissue application to inquire whether there was a mistake in inventorship in the '610 Patent, much less whether he should be removed as an inventor. Carnegie and Kowalczyk therefore lacked a sufficient basis to allege Frushour was incorrectly named as an inventor

ANSWER: Denied.

36. Hemley, Mao, Yan, and Li, who are now named as co-inventors of the '189 Reissue Patent, as well as Carnegie and Kowalczyk, as the applicant for the '189 Patent, owed a duty of candor to the Patent Office. Under 37 C.F.R. § 1.56, they had a duty to disclose information material to the patentability of the '189 Patent, including inventorship conflicts.

ANSWER: Paragraph 36 states legal conclusions to which no answer is required. To the extent an answer is required, Plaintiffs admit that all patent applicants owe a duty of candor to the PTO.

37. But Hemley, Mao, Yan, Carnegie, and Kowalczyk committed inequitable conduct by submitting a false declaration to the Patent Office during the prosecution of the '171 Application. Neither that Declaration nor the failed attempt to provoke an interference was brought to the attention of the Patent Office in the '529 Application leading to the '189 Reissue Patent.

ANSWER: Denied.

38. Upon information and belief, Carnegie and Kowalczyk specifically intended to deceive the Patent Office to falsely obtain recognition in the scientific community for its scientists, Hemley, Mao, and Yan, as the inventors of the claimed subject matter, and to secure the '189 Reissue Patent for Carnegie. Hemley, Mao, Yan, Carnegie, and Kowalczyk knew that they did not convey the claimed annealing steps to Frushour or Li, but still chose to submit a false declaration to that effect in 2004 to the Patent Office. With an intent to deceive the Patent Office, they falsely alleged a mistake in inventorship to the Patent Office nearly five years after they abandoned their original inventorship challenge to obtain the '189 Reissue Patent and add themselves as named inventors when they were not.

ANSWER: Denied.

39. Information pertinent to the falsity of that declaration of inventorship was not provided to the Patent Office during the reissue application process for the '610 Patent by any of Carnegie, Kowalczyk, Hemley, Mao, Yan, or Li. Had that Patent Office had this information, it would not have reissued the '610 Patent as the '189 Reissue Patent naming Hemley, Mao, and Yan as co-inventors.

ANSWER: Denied.

40. Moreover, while filing the '529 Application that led to the '189 Reissue Patent, Hemley, Mao, Li, Yan, Kowalczyk, and Carnegie falsely represented to the Patent Office that another mistake had been made regarding inventorship—that Frushour was not an inventor of the subject matter claimed in the '189 Patent. Along with the reissue application for the '189 Patent, Carnegie's representative, Gary Kowalczyk, Director of Administration and Finance at Carnegie, signed a reissue application declaration. Under oath, Carnegie, through Kowalczyk, claimed that a mistake had been made regarding the inventorship of the '610 Patent, and that Frushour was not an inventor of the subject matter claimed in the '189 Patent.

ANSWER: Plaintiffs admit that, in a declaration accompanying the '529 Application signed by Mr. Kowalczyk, Carnegie explained to the PTO that Robert H. Frushour was incorrectly named on the '610 Patent as an inventor. Plaintiffs deny that Mr. Kowalczyk's declaration was false. Plaintiffs deny any remaining allegations in Paragraph 40.

41. That was a false oath. Frushour was a co-inventor of the subject matter claimed in the '189 Patent. Frushour contributed to the conception of the subject matter claimed in the '189 Patent. Frushour's co-inventorship is corroborated by the '266 Application, evidence produced by Carnegie in May 2020, and evidence produced by Frushour in response to subpoena in June 2020, as well as his deposition testimony from June 11, 2020.

ANSWER: Denied.

42. But for the false representations to the Patent Office in the Kowalczyk Declaration that Frushour was not an inventor of the subject matter claimed in the '610 Patent, the Patent Office would not have reissued it as the '189 Patent.

ANSWER: Denied.

43. Hemley, Mao, Yan, Carnegie, and Kowalczyk committed inequitable conduct by failing to inform the Patent Office that they had not investigated the ownership question with all of the original inventors. This was material information. The Patent Office had no reason to believe that the '189 Patent failed to name the correct inventors because Carnegie did not inform the Patent Office of its failure to investigate with Frushour his status as an inventor. Had Carnegie informed the Patent Office that it did not have full information, the Patent Office would have requested additional information regarding the alleged mistake and Frushour's contribution to the claimed subject matter, and refused to reissue the '189 Patent to Carnegie naming Hemley, Mao, Yan, and Li as the inventors.

ANSWER: Denied.

44. Moreover, Hemley, Mao, Yan, Carnegie, and Kowalczyk committed inequitable conduct by failing to inform the Patent Office that the prior owner of the '610 patent disputed their claim that Hemley, Mao, Yan had contributed to the conception of the claimed subject matter. Carnegie's attorney had been informed by the attorney prosecuting the '610 Patent that no mistake had been made during the prosecution of the '610 Patent. This was material information that they withheld from the Patent Office. Had Carnegie informed the Patent Office that the prior owner disputed the existence of any alleged mistake in inventorship, the Patent Office would have required additional information, and refused to reissue the '189 Patent to Carnegie naming only Hemley, Mao, Yan, and Li as co-inventors.

ANSWER: Denied.

45. Upon information and belief, Hemley, Mao, Li, Yan, Carnegie, and Kowalczyk had specific intent to deceive the Patent Office about Frushour's co-inventorship of the subject matter claimed in the '189 Patent, to falsely obtain recognition in the scientific community for Hemley, Mao, and Yan as the inventors of the claimed subject matter, and to secure the '189 Patent in the name of their employer and the applicant, Carnegie.

ANSWER: Denied.

46. Similarly, on information and belief, Li committed inequitable conduct with respect to the '529 Application that reissued as the '189 Patent. Li signed a Combined Declaration and Power of Attorney on May 22, 2002, that declared that Frushour was a coinventor of the subject matter claimed in the '189 Reissue Patent. Frushour contributed to the conception of the subject matter claimed in the '189 Reissue Patent. Frushour's co-inventorship is corroborated by the '266 Application and documentary and testimonial evidence produced by Frushour in response to subpoena, including a Phoenix Crystal Corporation lab notebook, contemporaneously maintained by Li.

ANSWER: Plaintiffs admit that Li and Frushour signed a declaration dated May 22, 2002, which was submitted to the PTO with the '266 Application. Plaintiffs aver that, in Li and Frushour's May 22, 2002 declaration, they each declared that they believed themselves to be an original, first and joint inventor of the claimed subject matter. Plaintiffs deny the remaining allegations in Paragraph 46.

47. Upon information and belief, Li specifically intended to deceive the Patent Office on inventorship in order to secure the '189 Reissue Patent for his former colleagues at Carnegie (Hemley, Mao, and Yan) in exchange for them including Li among the list of co-inventors to be recognized by the scientific community for the invention.

ANSWER: Denied.

48. As a named inventor of the '266 Application that issued as the '610 Patent, and as a named inventor of the '529 Application that reissued as the '189 Reissue Patent, Li owed a duty of candor to the Patent Office. Under 37 C.F.R. § 1.56, Li had a duty to disclose information material to the patentability of the '610 Patent and the '189 Reissue Patent, including inventorship conflicts.

ANSWER: Paragraph 48 states legal conclusions to which no answer is required. To the extent an answer is required, Plaintiffs admit that all patent applicants owe a duty of candor to the PTO.

49. Despite owing a duty of candor to the Patent Office, Li knew but chose not to disclose to the Patent Office that Frushour was a co-inventor of the subject matter claimed in the '529 Application. Consistent with Li's Combined Declaration dated May 22, 2002, Frushour is an inventor, and there was no mistake in naming Frushour as an inventor. But for Li's violation of his duty of candor, on information and belief, the Patent Office would not have reissued the '189 Reissue Patent to Carnegie.

ANSWER: Denied.

50. If the July 12, 2004 Declaration of Hemley, Mao, and Yan is to be believed, Li committed inequitable conduct with respect to the earlier '266 Application that issued as the '610 Patent.

ANSWER: Denied.

51. According to Hemley's, Mao's, and Yan's Declaration dated July 12, 2004 (if believed to be true), Li was formerly a colleague of theirs at Carnegie. He knew at the time he filed the '266 Application with Frushour (leading to the '610 Patent) that Hemley, Mao, and Yan

were the inventors of the subject matter claimed in the '266 Application and that Hemley, Mao, and Yan had not worked or spoken with Frushour. But Li failed to disclose to the Patent Office that Hemley, Mao, and Yan were also inventors of the subject matter claimed in the '266 Application and that Frushour was not an inventor. Li, in fact, declared to the contrary in his Declaration dated May 22, 2002, affirming that only he and Frushour were the inventors

ANSWER: Plaintiffs admit that Li was a former post-doctoral fellow at Carnegie who worked with Hemley, Mao, and Yan. Plaintiffs deny the remaining allegations in Paragraph 51.

52. If the Declaration of Hemley, Mao, and Yan dated July 12, 2004, is to be believed, then upon information and belief, Li specifically intended to deceive the Patent Office in the submission of the Declaration dated May 22, 2002, filed in the '266 Application. According to Hemley's, Mao's, and Yan's declaration (if believed to be true), and despite owing a duty of candor to the Patent Office, Li knew but deliberately chose not to disclose to the Patent Office that Hemley, Mao, and Yan were co-inventors of the subject matter claimed in the '266 Application and that Frushour was not an inventor.

ANSWER: Denied.

53. Again, according to Hemley's, Mao's, and Yan's Declaration (if believed to be true), but for Li's violation of his duty of candor by failing to disclose to the Patent Office that Hemley, Mao, and Yan were co-inventors and that Frushour was not an inventor, the Patent Office would not have issued the '610 Patent to Frushour and Li.

ANSWER: Denied.

54. Similarly, Li committed inequitable conduct in connection with the '266 Application because, if Hemley's, Mao's, and Yan's Declaration is to be believed, Li could not have believed in good faith that Frushour was an inventor at the time of his inventor oath in the '266 Application

ANSWER: Denied.

55. Li signed the same declaration as Frushour, in which both claimed to have been the inventors of the subject matter. Li did not dispute that Frushour was an inventor when he signed the declaration in May 2002. Nor did he ever inform Frushour of his belief that Frushour was not an inventor. Li did not communicate with Frushour about the facts of the invention after signing his declaration. There was no new factual information available to Li in January 2009, when the application for the '189 Reissue Patent was filed, that he did not have at the time of his May 2002 Declaration. Thus, to the extent that Hemley's, Mao's, and Yan's Declaration is believed to be true and Li believes Frushour was not an inventor, he necessarily had that belief at the time he signed his declaration in the '266 Application. Li therefore falsely stated under oath that Frushour was an inventor and he knowingly and intentionally sought to deceive the Patent Office through his false declaration.

ANSWER: Plaintiffs admit that Li and Frushour signed a declaration dated May 22, 2002, which was submitted to the PTO with the '266 Application. Plaintiffs aver that, in Li and Frushour's May 22, 2002 declaration, they each declared that they believed themselves to be an original, first and joint inventor of the claimed subject matter. Plaintiffs deny the remaining allegations in Paragraph 55.

56. Li's inequitable conduct with respect to the '266 Application taints not just the '610 Patent, but also the '189 Reissue Patent, because inequitable conduct cannot be cured by reissue.

ANSWER: Paragraph 56 states legal conclusions to which no answer is required. To the extent an answer is required, Plaintiffs deny the allegations in Paragraph 56.

57. Whichever way one looks at the situation, the '189 Reissue Patent is unenforceable due to inequitable conduct. Either Frushour is an inventor or he is not. If he is not an inventor, Li falsely stated that he was when he signed the original joint declaration. Li cannot take back that declaration now on the basis that he originally acted in good faith. There is no "new" factual information supporting any claim that Frushour was not an inventor, and Li had an obligation to read and understand what he signed on the basis of the facts then known to him, which was that Frushour was an inventor. On the other hand, if Li acted in good faith when he signed the declaration (which is consistent with the documentary and testimonial evidence in this case), there is no factual or legal basis upon which he could later recant that declaration. If Frushour is an inventor, then Li, Hemley, Mao, Yan, Li, Carnegie, and Kowalczyk committed inequitable conduct by submitting a false declaration that a mistake as to inventorship had been made. There was no mistake. Frushour is an inventor.

ANSWER: Denied.

58. Either way, someone deliberately lied to the Patent Office, and that lie was material to patentability. Had the Patent Office been aware of the true facts, they either would not have issued the '610 Patent to Li and Frushour or not re-issued the '189 Reissue Patent to Li, Hemley, Mao, and Yan.

ANSWER: Denied.

59. The '189 Reissue patent is therefore unenforceable due to inequitable conduct.

ANSWER: Denied.

60. Accordingly, PGD is entitled to a declaratory judgment that the '189 Patent is unenforceable due to inequitable conduct.

ANSWER: Denied.

61. These specific examples of inequitable conduct described above are intended to be exemplary only, as further facts developed through discovery may provide additional examples.

ANSWER: Denied.

EXCEPTIONAL CASE

62. This case is an exceptional case under 35 U.S.C. § 285, and PGD is entitled to recover from Plaintiffs attorneys' fees and costs incurred in connection with this action.

ANSWER: Denied.

PRAYER FOR RELIEF

Plaintiffs deny that PGD is entitled to any relief sought in its Prayer for Relief.

SEPARATE DEFENSES

In response to PGD's counterclaims, Plaintiffs assert the following separate defenses. In asserting these defenses, Plaintiffs do not assume the burden of proof with respect to any issue upon which applicable law places the burden of proof upon PGD.

FIRST SEPARATE DEFENSE: NOT JUSTICIABLE

PGD's counterclaims, in whole or in part, are non-justiciable.

SECOND SEPARATE DEFENSE: RESERVATION OF RIGHTS

Plaintiffs have not knowingly or intentionally waived any applicable separate defenses. Plaintiffs' asserted separate defenses are based on information available and accessible to Plaintiffs at this time. Plaintiffs' investigation of its defenses will continue throughout discovery in this matter and Plaintiffs reserve the right to supplement and/or amend these defenses.

WHEREFORE, Plaintiffs respectfully request the following relief:

(a) An order dismissing PGD's Counterclaims with prejudice, and a judgment that PGD is not entitled to the relief sought, or to any other relief on its Counterclaims;

- (b) An order granting each and every Request for Relief sought by Plaintiffs in their Complaint;
- (c) An award of Plaintiffs' costs and expenses in defending the Counterclaims; and
- (d) Such other and further relief as the Court deems just and proper.

Dated: September 14, 2020

Respectfully submitted,

PERKINS COIE LLP

/s/ Matthew J. Moffa

Matthew J. Moffa
PERKINS COIE LLP
1155 Avenue of the Americas
22nd Floor
New York, NY 10036-2711
Telephone: (212) 261-6857
Fax: (212) 399-8057
e-mail: MMoffa@perkinscoie.com

Terrence J. Wikberg (*admitted pro hac vice*)
Michael A. Chajon (*admitted pro hac vice*)
PERKINS COIE LLP
607 14th Street, NW
Washington, DC 20005
Telephone (202) 434-1649
Fax: (202) 654-9149
e-mail: TWikberg@perkinscoie.com
MChajon@perkinscoie.com

Amy E. Simpson (*admitted pro hac vice*)
Kevin Patariu
PERKINS COIE LLP
11452 El Camino Real, Suite 300
San Diego, CA 92130-3334
Telephone: (858) 720-5702
Fax: (858) 720-5799
e-mail: ASimpson@perkinscoie.com
KPatariu@perkinscoie.com

Michelle Umberger (*admitted pro hac vice*)
PERKINS COIE LLP
33 East Main Street, Suite 201
Madison, WI 53703-3095
Telephone: (608) 663-7466
Fax: (608) 663-7499
e-mail: MUmberger@perkinscoie.com

Sarah Fowler (*admitted pro hac vice*)
PERKINS COIE LLP
3150 Porter Drive
Palo Alto, CA 943041212
Telephone: (650) 838-4489
e-mail: SFowler@perkinscoie.com

*Counsel for Plaintiffs Carnegie Institution of
Washington and M7D Corporation*